

CLAIMS

1. An easily dispersible cake of precipitated silica which is characterized by having BET specific surface area of at least 220 m²/g and when it is dispersed in ion-exchange water to provide an aqueous dispersion of the silica of 5 % by weight in concentration and further diluted to reduce the silica concentration to 1.5 % by weight, the dispersion having a light-scattering index (n-value) of at least 2.
2. An easily dispersible cake of precipitated silica according to Claim 1, having a water content within a range of 83– 93 % by weight.
3. A process for producing an easily dispersible cake of precipitated silica, characterized by comprising simultaneously adding an alkali silicate and a mineral acid to a reaction liquid of which pH is being maintained at a fixed value within a range of 7.5 – 11.5 and of which temperature is being maintained at not lower than 90°C, whereby forming precipitated silica through their reaction; and separating said precipitated silica from said reaction liquid in wet state.
4. A process for producing an easily dispersible cake of precipitated silica according to Claim 3, in which the concentration of the silica solid in the reaction mixture at the ending time of the reaction is not higher than 50 g/L.
5. A dispersion of precipitated silica which is characterized by being a dispersion of an easily dispersible cake of precipitated silica as described in Claim 1 in a polar solvent, the average particle size of the precipitated silica particles present in the dispersion being not greater than 300 nm and the ratio of aggregated particles having a particle size equaling to or more than 500 nm being not higher than 5 % by volume.
6. A dispersion of precipitated silica according to Claim 5, in

which further a cationic polymer is dispersed.

7. A process for preparing the dispersion of precipitated silica of Claim 5, in which a silica slurry formed by dispersing a cake of precipitated silica of Claim 1 in a polar solvent is subjected to a fine pulverization treatment with a high pressure homogenizer.

8. A process for preparing a dispersion of precipitated silica according to Claim 6, in which a liquid premixture formed by dispersing a cake of precipitated silica according to Claim 1 and cationic polymer in a polar solvent is subjected to a fine pulverization treatment with a high pressure homogenizer.

9. A coating liquid for ink-jet recording sheet characterized by comprising a polar solvent containing precipitated silica particles having BET specific surface area of at least $220 \text{ m}^2/\text{g}$ and a binder, the percent transmission of the coating liquid as measured after diluting the same to the silica concentration of 1.5% by weight being at least 20%.

10. A coating liquid for ink-jet recording sheet according to Claim 9, which further comprises a cationic polymer.

11. A process for making a coating liquid for ink-jet recording sheet of Claim 9, which is characterized by dispersing a cake of precipitated silica of Claim 1 and a binder in a polar solvent.

12. A process for making a coating liquid for ink-jet recording sheet of Claim 10, which is characterized by dispersing a cake of precipitated silica of Claim 1, cationic polymer and binder in a polar solvent.